MI SHA NEWS

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Ground Zero

World Trade Center & Pentagon Terrorist Attacks: Implications for Workplace Crisis Intervention

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Note: The authors were crisis management consultants to U.S. Army Infantry personnel assisting with emergency support functions. They were at Ground Zero and the Fresh Kills Landfill on Staten Island and observed the impact this event had on emergency responders. They have a MIOSHA CET Grant and help companies and governmental entities develop comprehensive crisis management programs.

September 11, 2001 was a turning point for life in the United States. It was perhaps the most witnessed crime in history; it changed our nation's psyche; it forced a re-evaluation of many aspects of business operations, safety planning and employee well being. Our assumptions about the invulnerability of our nation were destroyed.

Corporate, governmental and union leadership were confronted with situations for which they were unprepared. All of their training, knowledge and experience did not address their roles of helping their employees and their organizations cope with, and recover from, a trauma of this magnitude. The response to the terrorist attacks created both an organizational crisis and a personal crisis for many leaders who always "knew what to do."

Most leaders were forced to reassess traditional practices. Many are now developing more sophisticated business continuity and contingency plans for catastrophic acts of violence which affect business survival, people, operations, litigation and organizational image. "Consequent management," health and safety, and employee psychological stress and resilience of the workforce, have become as important as the bottom line and profitability. It became apparent that while many companies had disaster plans which focused on operations, proprietary data, and physical facilities–these plans typically did not address the traumatic impact of crisis events and their potential for affecting managers and employees.

Ground Zero at the World Trade Center was a search site like few others after a major disaster.

Ground Zero

Ground Zero at the World Trade Center was a search site like few others after a major disaster event. Multiple sources of hazards were everywhere. There were shards of steel piled upon steel, a two-million-ton pile of debris, red hot steel beams still being pulled from the earth, crevasses, holes, unstable ground, still burning fires, possible asbestos exposure, and caustic fumes that may have contained mixtures of benzene, methane gas and

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From the Bureau Director's Desk

Workplace Protection for First Responders

By: Douglas R. Earle, Director
Bureau of Safety & Regulation

In the Summer 2001 issue, I concluded my column with an expression of concern regarding biological hazards in the workplace. Although I didn't specifically include bioterrorism, it is clearly among the issues that I was, and remain, concerned about.

Following the events at the World Trade Center, the Pentagon, and a Pennsylvania farm field, there has been escalating concern in our nation over bioterrorism, particularly in the workplace. Because of this I believe it important to devote my column to this emerging threat to workplace safety and health.

In response to numerous anthrax scares, government officials are working to protect citizens from acts of terrorism. It is imperative an equally high priority is placed on the safety of the workers who respond to these incidents. I urge all employers with first responder responsibilities in bioterrorism events to become familiar and comply with the worker safety and health requirements of MIOSHA.

Anthrax Exposure

Less than three months ago, employee exposure to anthrax was referenced in historical files as "Wool Sorters Disease." With the exception of veterinarians, the only employees at risk were those that handled untreated animal hair. Today's reality has greatly changed the scope of workplace anthrax exposure.

The Centers for Disease Control and Prevention (CDC), the U.S. Postal Service, the federal Occupational Safety and Health Administration (OSHA), and the FBI have all developed guidelines for businesses and the general public if they encounter suspicious mail and/or packages. In each of the guidelines, after making sure the material is isolated and that all exposed persons have washed their hands–they advise that local law enforcement authorities be called immediately.

These **first responders**, including police, firefighters, and emergency medical services workers may be exposed to anthrax. The **Michigan State Police** (MSP) has developed a protocol: **Assessment Guidance for Incidents Involving "Suspicious" Packages/Powders,** which I understand has been distributed to all MSP units and made available to fire service and police departments throughout Michigan.

The purpose of the protocol is to help responders assess the situation and determine when trained hazardous materials technicians should be involved. The protocol can help local law enforcement and other responders determine if there is a "credible threat" and how to proceed.

MIOSHA First Responders Requirements

MIOSHA rules are designed to help protect first responders when the release or potential threat of release of biological, chemical or radiological agents has occurred. Specifically, **Part 432. Hazardous Waste Operations and Emergency Response (HAZWOPER)**, applies.

If the first responder determines there is a **"credible threat"** (per FBI and/or MSP criteria), under Hazwoper, a HAZMAT team with personnel trained to at least the technician level must be involved in packaging the item. An item deemed as a "credible threat" must be triple bagged, appropriately decontaminated (i.e., the exterior, or third, package) and identified as a "biohazard." Upon completion of packaging and decontamination, the item may then be released by the HAZMAT team for transport to the Michigan Department of Community Health for further evaluation.

A suspicious item that is not deemed as a "credible threat" may be collected by law enforcement officials for investigation and potential use in prosecution proceedings.

OSHA Resources

On Nov. 16, Labor Secretary **Elaine L. Chao** announced a new OSHA model to assist employers and employees in dealing with possible workplace exposures to anthrax in mail handling. The **Anthrax Matrix** guides employers in assessing risk to their workers, providing appropriate protective equipment and specifying safe work practices for low, medium and high risk levels in the workplace.

"Most employers and employees face little or no risk of exposure to anthrax and need only minimal precautions," Chao said. "But some may have to deal with potential or known exposures, and we want to make sure they have all possible information available to protect Americans at their workplace."

OSHA developed the matrix in consultation with the U.S. Postal Service, the CDC and the National Institute for Occupational Safety and Health (NIOSH), the Environmental Protection Agency and the FBI. OSHA expects to continually update information on anthrax and other terrorism threats as new guidance becomes available.

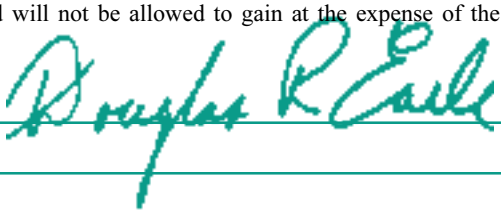
MIOSHA Response

We want to make it clear that MIOSHA is attempting to provide information and guidance for Michigan employers–we are not creating new workplace standards or requirements. In the short term, we are collecting information from a variety of sources, and then disseminating that information to, and training, our internal staff. This will help our safety and health consultants answer employer questions on bioterrorism and anthrax.

In the long term we are creating an outreach packet for general industry. That packet will include information on: bioterrorism, mail handling procedures, building and ventilation security, evacuation plans, and personal protective equipment. Once this material is complete, a series of training seminars will be scheduled. We must emphasize that we plan on being flexible and may change this information depending upon future events.

For further information on the outreach packet, contact the **Consultation Education & Training Division at 517.322.1809.** Information is also available on our Website at: www.cis.state.mi.us/bsr.

We must all take the reasonable and necessary steps to assure the safety of American workers. We must remain rationale and not panic. Terrorism must and will not be allowed to gain at the expense of the American worker.



LOCKOUT–TAGOUT

Is it Time for a Periodic Inspection?

By: Martha B. Yoder, Chief
General Industry Safety Division

Have you inspected your lockout-tagout program recently? The MIOSHA General Industry Safety Standard, Part 85, Control of Hazardous Energy Sources (commonly referred to as the lockout-tagout standard), requires periodic inspections of energy control procedures.

The periodic inspection is an important component of an effective lockout-tagout program. It is intended to continually verify the effectiveness of the company energy control procedures and to be certain that company procedures are being properly followed.

One employer, responding to a citation for lack of periodic inspections, wrote to tell us that conducting the periodic inspections was valuable. He was surprised by the results. The inspection revealed that six of the company's authorized employees did not remember they were required to lockout when working on the identified piece of equipment.

Two other authorized employees disconnected the power but failed to use a lock when working on a piece of equipment identified as requiring lockout during service and maintenance. As a result, the employer retrained those employees in the inadequacies identified during the inspection and also retrained all authorized employees on the company lockout procedures.

APPENDIX H

CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT)

PERIODIC INSPECTION CERTIFICATION

DATE: _____

INSPECTOR: _____

SIGNATURE: _____

MACHINE OR EQUIPMENT ON WHICH LOCKOUT / TAGOUT PROCEDURES WERE PERFORMED:

_____

EMPLOYEES PERFORMING THE LOCKOUT/TAGOUT PROCEDURES

EMPLOYEE NAME (Please Print) | EMPLOYEE SIGNATURE

_____ | _____

_____ | _____

_____ | _____

_____ | _____

_____ | _____

_____ | _____

_____ | _____

_____ | _____

WERE ALL THE LOCKOUT / TAGOUT PROCEDURES PERFORMED CORRECTLY?

YES _____ NO _____

COMMENTS ON IMPROPER LOCKOUT/TAGOUT PROCEDURES BEING USED ON THE REVERSE SIDE OF THIS SHEET (ex. List of improper procedures being used which require retraining for the employee or modification of the procedures.):

The "Periodic Inspection Certification" is contained in the CET Lockout/Tagout Compliance Guide, SP-27.

Periodic Inspections

Under the lockout-tagout standard, "periodic" means that the employer must conduct an inspection at least annually to review the energy control procedures for equipment and machines involved in the lockout-tagout program.

The inspection must be performed by an authorized employee other than the authorized employee utilizing the lockout procedures. The inspection should include a review between the inspector, authorized employees, and any other affected employees.

At a minimum, periodic inspections must include a demonstration of the procedures and may be implemented through random audits and planned visual observations. Typically, periodic inspections include:

- Review of current energy control methods;
- Correct energy source identification;
- Proper lockout device usage;
- Methods used to release stored energies;
- Review of employee responsibilities and procedures used;
- Employee complaints regarding concerns with the lockout/tagout program.

Lockout Procedures

For periodic inspections of **lockout procedures**, the employer's inspection must include a review of each authorized employee implementing the procedure with that employee. While individual inspections provide the most comprehensive assessment, a group meeting between the authorized employee who is performing the inspection and all authorized employees who implement the procedure is an acceptable alternative.

Tagout Procedures

For periodic inspections of **tagout procedures**, the employer must conduct the review with both employees authorized to perform the tagout, and employees identified as "affected" in the standard. Affected employees are those employees whose job requires them to use a machine or equipment on which servicing or maintenance is being performed under lockout or tagout, or whose job requires them to work in an area in which such servicing or maintenance is being performed.

Infrequent Procedures

Energy control procedures used less frequently than once a year need to be inspected when used.

Certification

Following the inspection, the employer must document or **certify** that the inspections have been performed. The certification must include:

- Names of the employees included;
- Date of the inspection;
- Person performing the inspection;
- Machine or equipment on which the energy control procedure was being utilized.

Employee Retraining

As a result of the inspection, the employer may identify areas where employees do not follow procedures as intended or identify where procedures must be enhanced. If deficiencies in performance or changes in procedures are made, employees must be retrained.

***Do it Right–**The Lockout-Tagout Standard requires periodic inspection of energy control procedures.*

The standard also requires the employer to provide retraining whenever the employer has reason to believe there are deviations from or inadequacies in the employer's knowledge or use of the energy control procedures. Retraining will re-establish employee proficiency and/or introduce new or revised control methods and procedures, as necessary.

CET Assistance

Assistance in establishing or strengthening your company lockout-tagout program is available by contacting the Consultation Education and Training (CET) Division at 517.322.1809. CET has safety and health consultants available to work with employers in their workplace at no cost. In addition, an excellent resource, the Lockout-Tagout Compliance Guide, SP-27 is available which contains sample inspection and training forms. ■

ERGONOMICS | Controlling Work-Related MSDs

By: Sheryl S. Ulin, Ph.D., CPE
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The University of Michigan
Center for Ergonomics

This is the first of a two-part series. Background information and work documentation of MSDs will be covered in this article. In the Spring 2002 issue, the authors will cover job assessment and design to reduce MSDs.

Ergonomics in the occupational setting has been defined as the science that seeks to adapt work or working conditions to suit the worker. Ergonomic design is the application of this body of scientific knowledge to the design of tools, machines, systems, tasks, jobs, and environments for safe, comfortable and effective human use. Failure to adequately deal with these design issues can result in musculoskeletal disorders (MSDs).

Characteristics of MSDs

Musculoskeletal disorders are disorders of the soft tissues caused by repeated exertions and movements of the body. Although these disorders can occur in nearly all tissues, the most frequently reported sites are the nerves, tendons, tendon sheaths, and muscles.

Some of the common characteristics ascribed to these disorders are:

- They are related to the intensity of work.
- They involve both biomechanical and physiologic mechanisms.
- They may occur after weeks, months, or years on the job.
- They may require weeks, months or years for recovery.
- Their symptoms often are poorly localized and nonspecific.
- They may have both occupational and nonoccupational causes.

Because there often is a long time between beginning work and the onset of MSDs, because they are not immediately life-threatening and may go unreported, and because workers change jobs and employers, it is difficult to determine the exact disease patterns. Epidemiologic studies have been conducted which isolate jobs, tools, areas, plants, or industries with excessive risk.

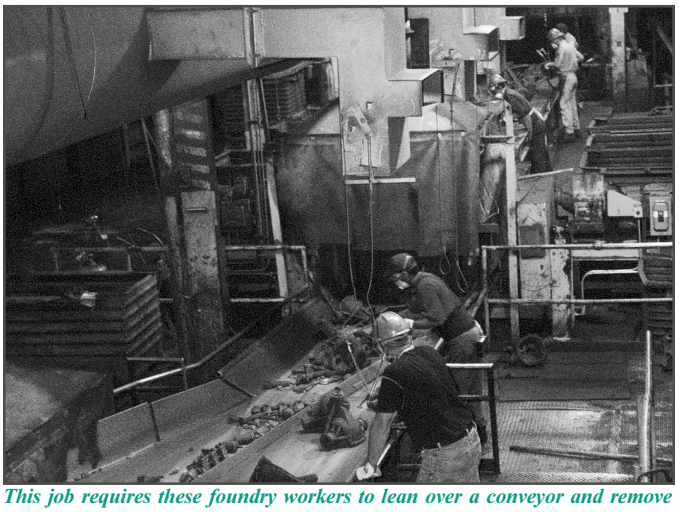
The occurrence of discomfort and pain does not necessarily mean that a worker has developed a musculoskeletal disorder. Discomfort and other adverse performance effects may result from localized fatigue and be a consequence of normal work. Localized fatigue has qualities similar to MSDs, but it tends to develop and recover much more quickly.

Persistence of symptoms from day to day or interference with activities of work or daily living may indicate something more serious than fatigue. Workers experiencing such symptoms should be evaluated by a professional health care provider.

Ergonomics Program

An on-going ergonomics program defines the framework for successful job analysis and job design control measures. The key elements in an ergonomics program include:

- Written document including: statement of management commitment, goals, responsibilities, and a timeline for intervention implementation;
- Participation of all affected parties, such as managers, supervisors, workers, safety and health, and engineers;
- Active and passive medical surveillance;
- Management of affected workers;
- Worksite analysis;
- Training for managers, supervisors, workers, engineers, and maintenance personnel; and
- Periodic program evaluation.



This job requires these foundry workers to lean over a conveyor and remove defective 40-70 pound castings with a hand hook.

Most MSDs are identified after the fact. An effective ergonomics program identifies risk factors prior to injury and/or illness–and seeks to control or eliminate those risk factors. The most commonly cited occupational risk factors for MSDs include:

- Repeated and sustained exertions,
- Forceful exertions,
- Localized contact stress,
- Specific postures,
- Vibration, and
- Low temperatures.

Job Documentation

The first step in ergonomic job analysis is job documentation. Before ergonomic stresses can be identified and work changes implemented to control disorders–what the worker does must be documented. This work documentation requires six steps.

The Work Objective–is the reason the job is performed, such as to put wheels on cars, to enter data into a computer, and to remove fat from hams. Often the job title will reflect the objective.

The Work Standard–is an expression of the quantity and quality of work expected in a given period. Manufacturing work standards usually are expressed in numbers of assemblies or parts. In office settings, they may be expressed in terms of key strokes, numbers of documents, transactions, or other tasks.

Standards are based on the concept of a fair day's work and should be within the work capacity of 95 percent of the work force. In addition to the base standard, there may be incentives or bonuses by which workers can earn additional income for working above the standard. In some cases these are based on individual performance and in others on group performance. Work incentives also should be documented.

The Work Method–is the procedure used to accomplish the work objective and is described as a sequence of steps or elements. Generally, there are many ways in which a given job can be performed; however, the work standard is based on the assumption of a "standard method." The work standard should include a description of the standard method on which it is based. As a practical matter, the method employed by the worker may, in fact, be significantly different from the standard method. These differences should be documented.

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WORKING WOMEN

Women's Safety & Health Issues at Work

Working women compose an increasingly large proportion of the U.S. workforce. They also face high risk from job-related stress, musculoskeletal injuries, violence, and other hazards of the modern workplace. In many respects, the risks are higher than those for male workers.

As the only federal agency mandated to conduct research to prevent injuries and illnesses in the workplace, the National Institute for Occupational Safety and Health (NIOSH) has an expanding research program to address the occupational safety and health needs of working women.

On March 23, 2001, NIOSH issued a fact sheet, "Women's Safety and Health Issues at Work," about women in the workforce. The fact sheet contains information on working women, the hazards they may face, and NIOSH research in areas of particular concern to women.

Musculoskeletal Disorders

Women workers are at disproportionately high risk for musculoskeletal injuries on the job–suffering 63 percent of all work-related repetitive motion injuries. Sprains and strains, carpal tunnel syndrome, tendonitis, and other musculoskeletal disorders account for 52 percent of the injuries and illnesses suffered by female workers, compared to 45 percent for male workers.

Further research is needed to determine the factors that place women at greater risk for musculoskeletal disorders. Research will examine if physical differences between men and women, or differences in the jobs they hold, contribute to this increased risk for women.

NIOSH is conducting research on musculoskeletal disorders among women in the telecommunication, health care, service, and data entry industries.

Job Stress

Stress at work is a growing problem for all workers, including women. In one survey 60 percent of employed women cited stress as their number one problem at work. Furthermore, levels of stress-related illness are nearly twice as high for women as for men.

Many job conditions contribute to stress among women. Such job conditions include heavy workload demands; little control over work; role ambiguity and conflict; job insecurity; poor relationships with coworkers and supervisors; and work that is narrow, repetitive, and monotonous. Other factors, such as sexual harassment and work and family balance issues, may also be stressors for women in the workplace.

Job stress has been linked with cardiovascular disease, musculoskeletal disorders, depression, and burnout. NIOSH is conducting studies to identify workplace factors that are particularly stressful to women, and potential prevention measures.

Reproductive Hazards

Three-quarters of women of reproductive age are in the workforce. Over half of the children born in the United States are born to working mothers. Hazards such as radiation, glycol ethers, lead, and strenuous physical labor can affect a woman's reproduction health, including pregnancy outcomes.

NIOSH is conducting both basic research and population-based studies to learn whether women may be at risk for reproductive health hazards related to their work environment.

Violence in the Workplace

Violence is also a special concern for women workers. **Homicide** is the leading cause of job-related death for women in the workplace. Homicide accounts for 40 percent of all workplace death among female workers. Workplace homicides are primarily robbery-related, and often occur in grocery/convenience stores, eating and drinking establishments, and gasoline service stations.

Over 25 percent of female victims of workplace homicide are assaulted by people they know (coworkers, customers, spouses, or friends). Domestic violence incidents that spill into the workplace account for 16 percent of female victims of job-related homicides.

Female workers are also at risk for **nonfatal violence**. Women were the victims in nearly two-thirds of the injuries resulting from workplace assaults. Most of these assaults (70 percent) were directed at women employed in service occupations, such as health care, while an additional 20 percent of these incidents occurred in retail locations, such as restaurants and grocery stores.

Women in Non-traditional Employment

Increasingly, women are moving into occupations once held exclusively by men, such as the construction trades. In such instances, physiological differences between women and men can translate into occupational hazards, as when women operate equipment designed for male workers of larger stature.

Women in non-traditional employment may face health and safety risks due to the equipment and clothing provided to them at their workplace. Personal protective equipment (PPE) and clothing (PPC) are often designed for average-sized men. The protective function of PPE/PPC (such as respirators, work gloves, and work boots) may be reduced when they do not fit female workers properly.

Women currently make up almost half of the general U.S. workforce.

Women who work in nontraditional employment settings may also face specific types of stressors. For instance, they may be exposed to sexual harassment and gender-based discrimination.

Cancer

An estimated 180,000 new cases of breast cancer and 12,000 new cases of cervical cancer were diagnosed in 2000. Workplace exposures to hazardous substances may play a role in the development of these types of cancer. NIOSH is studying several hazardous substances to determine whether there is a link to cancers that affect women, such as cervical and breast cancer.

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A Majority of U.S. Businesses Report Workplace Safety Delivers a Return on Investment

Liberty Mutual Survey Shows 61 Percent of Executives Say $3 or More Saved for Each $1 Invested in Workplace Safety

Ninety-five percent of business executives report that workplace safety has a positive impact on a company's financial performance, according to the findings of The ***Executive Survey of Workplace Safety*** announced Aug, 28, 2001, by the **Liberty Mutual Group**, the nation's leading provider of workers compensation insurance. Of these executives, 61 percent believe their companies receive a return on investment of $3 or more for each $1 they invest in improving workplace safety.

The survey also reveals executives realize the benefits of workplace safety go beyond the company's bottom-line, with 70 percent reporting that protecting employees is a leading benefit of workplace safety.

The survey also helps shed light for businesses on the two types of costs associated with workplace accidents: ***Direct costs***, or payments to injured employees and their medical care providers, and ***Indirect costs***, such as lost productivity, overtime costs, etc. Ninety-three percent of executives surveyed see a relationship between these costs, with 40 percent of them reporting $1 of direct cost generates between $3 and $5 of indirect costs.

Workplace Safety Index

Top 10 Leading Causes of Workplace Injuries & Illnesses

These are the leading causes of workplace injuries and illness resulting in employees missing five or more days of work in 1998. These incidents account for 86 percent of the $38.7 billion in direct wages and medical payments paid by employers.

Accident Cause	Direct Cost
Overexertion	$9.8 billion
Falls on Same Level	$4.4 billion
Bodily Reaction*	$3.6 billion
Falls to Lower Level	$3.6 billion
Struck by an Object	$3.4 billion
Repetitive Motion	$2.3 billion
Highway Accidents	$2.1 billion
Struck against an Object	$1.9 billion
Caught by Equipment	$1.6 billion
Temperature Extremes	$0.3 billion
All Accident Causes	$38.7 billion

* Injuries resulting from bending, climbing, loss of balance and slipping without falling.

Workplace Safety Index

By comparing the findings on indirect costs with its own research on the direct costs of workplace accidents and illness, Liberty Mutual calculates U.S. businesses are paying a staggering $155 billion to $232 billion on workers compensation losses annually. The ***Liberty Mutual Workplace Safety Index*** announced this spring provided the first-ever ranking of the 10 leading causes of workplace accidents based on the direct cost of each accident cause. The Index estimated the total direct cost of all workplace accidents was $38.7 billion in 1998, the most recent year for which data was available at the time. (See sidebar.)

Moreover, the survey findings reveal that business executives may be focusing attention on certain causes of workplace accidents at the expense of others, and may need to realign their workplace safety priorities.

For example, executives reported "Repetitive Motion" is the most important cause of workplace accidents and they will focus workplace safety resources on this cause. However, five other accident causes produced greater direct costs for companies in 1998, according to the Safety Index. Workplace injuries caused by "Repetitive Motion" produced $2.3 billion in direct costs for employers in 1998, about a quarter of the $9.8 billion of the leading accident cause, "Overexertion."

Similarly, executives may place less priority on accident causes that have greater potential financial impact. For example, survey participants reported "Falls on the Same Level" as the seventh most important cause of workplace accidents. However, the Index ranked this category as the second most important accident cause.

"Workplace safety has a ripple affect, either positive or negative, on so many aspects of U.S. business operations today," said **Joseph Gilles**, Liberty Mutual Executive Vice President, Commercial Insurance. "The first step for executives is to take preemptive measures to prevent employee pain and suffering caused by workplace injuries."

According to Gilles, "Identifying the accident causes that have the greatest impact on their company and focusing workplace resources on these will help a company reduce costs and achieve strategic corporate goals–such as assuring employee satisfaction and health, positioning the company as a low-cost provider, shortening production and delivery time, and improving product quality. Given the importance of workplace safety, companies should make sure their efforts are directed at those accident causes that have the greatest potential impact on their operations and employees."

Survey results are based on interviews with 200 executives responsible for workers compensation and other commercial insurances at 125 mid-size firms (100 to 999 employees) and 75 large companies (over 1,000 employees) representing a range of geographic locations and industries.

Benefits of Workplace Safety

- 95 percent of respondents believe workplace safety has a positive impact on a company's financial performance.
- 86 percent feel workplace safety provides a return on investment.
- 61 percent feel that $3 or more is saved for each $1 invested.
- 93 percent report a close relationship between the direct and indirect costs associated with a workplace accident.
- 40 percent feel that between $3 and $5 dollars of indirect costs exist for each $1 of direct costs.
- 82 percent feel their company currently places a priority on workplace safety.
- 70 percent report that protecting employees is a leading benefit of workplace safety.
- 49 percent report that protecting employees from the human and financial costs is the top benefit.

Elements of Effective Workplace Safety Programs

- 25 percent of respondents report that employee training is the most important element of an effective workplace safety program.
- 22 percent believe that management commitment is the most important element.
- 98 percent feel that direct employee participation is necessary for effective workplace safety.
- Respondents report that benchmarking a company's workplace safety performance is an important tool.
- 71 percent indicate that they compare their company's workplace safety performance to other companies.

This **Executive Survey** is part of Liberty Mutual's ongoing focus on Workplace Safety. It follows the Spring 2001 release of the **Workplace Safety Index**, the first ranking of accident causes by direct costs to employers using Liberty Mutual claims data, combined with findings from the **Bureau of Labor Statistics** and the **National Academy of Social Insurance**. Both studies are available at **www.libertymutual.com**. ■

The Bottom Line

Workplace Safety and Health Makes Good Business Sense

Hutchinson FTS - Jonesville Plant

Hutchinson FTS is the world's largest independent supplier of automotive air conditioner refrigerant fluid transfer systems. The company operates five major production facilities in Jonesville and Reading, Michigan, and Byrdstown and Livingston, Tennessee, and has a total of nearly 975 employees.

The FTS headquarters in Troy, MI, houses extensive research and development laboratories, a large prototyping and sample making unit, and the product engineering center. FTS designers and engineers have the ability to rapidly develop a complete air conditioner refrigerant fluid transfer system for virtually any vehicle in the world–going from concept to working prototype system within three to four weeks.

FTS President and CEO **Paul Campbell** believes that as a world leader in automotive air conditioner fluid transfer systems–the company should place a high priority on the safety and health of every FTS employee. This leadership from the top allows the five FTS plant managers to incorporate employee safety in all aspects of their operations.

The FTS Jonesville Plant

The FTS Jonesville Plant serves a unique function in the FTS group by supplying automotive air conditioning products for service, which are sold through dealerships. Their speciality is complexity–they make fluid transfer systems for automotive models that are no longer in production.

Their 60 employees operate 800 machines, making 1,900 final part numbers. A typical automotive supplier in their field would probably make a maximum of 30 final parts. The Jonesville plant is very people oriented. The complexity of their manufacturing operation requires skilled, knowledgeable employees. The Jonesville plant has outstanding quality service numbers, particularly given the wide range of parts produced.

Unique Safety Approach

The Jonesville plant's approach to health and safety in the workplace is an extensive safety audit system. According to Plant Manager **Mark Ries**, they do a safety audit once a quarter. In order to view their plant with a "fresh set of eyes," the FTS plant managers do a complete safety audit on each other's plants.

In another quarter, they will do a "safety blitz" of one particular operation. This allows them the opportunity to take an intense look at one area and all it's components and make sure the operation if conducted as safety as possible.

They will also do a safety walk-through with several different associates, again to get a fresh perspective on their operations. During these audits, they will make a thorough list of any potential problems and then devise action items to correct those problems. In the last six months, they have closed 206 action items.

The company also uses a variety of employee safety incentive programs to encourage their employees to work safely. And their emphasis on safety is paying off. They have not had a lost-time accident since Oct. 6, 1999. And they haven't had a recordable accident since June 23, 2000.

Human Resources Manager **Ron Freese** said they are able to attract the quality employees they need because they place such a high value on the safety and health of every employee. Freese said they are pleased that the MIOSHA program offers free safety and health services.

CET Safety Consultant **Quenten Yoder** recommended the Jonesville plant for this column. He has conducted safety audits with the company and has provided them with other safety training services. "I am very impressed with their total emphasis on the safety of their employees," said Yoder.

Teresa Clark, shown here running an automated leak tester, has been with Hutchinson for 5 & ½ years and is very pleased with the company's focus on safety.

This column features successful Michigan companies that have established a comprehensive safety and health program which positively impacts their bottom line. An accident-free work environment is not achieved by good luck—but by good planning! Creating a safe and healthy workplace takes as much attention as any aspect of running a business. Some positive benefits include: less injuries and illnesses, lower workers' compensation costs, increased production, increased employee morale, and lower absenteeism.

WORK-RELATED ASTHMA

from Diisocyanates & Other Allergens

By: John H. Peck, CIH, Chief
Occupational Health Division
William A. Lykes, Industrial Hygienist
Consultation Education & Training Division

Work-related asthma continues to be a significant occupational illness in Michigan. Studies suggest that work exposure is the cause of asthma in 20 percent or more of the adults with asthma. Various estimates put the total number of adults in Michigan with work-related asthma (WRA) between 4,600 and 59,800.

In 1988, the Department of Consumer and Industry Services (the Department of Public Health prior to 1996) instituted a surveillance program for WRA with financial assistance from the National Institute for Occupational Safety and Health (NIOSH). We have confirmed 1,638 cases of WRA since 1988.

Occupational Allergens

Through interviews with WRA patients and investigations of more than 500 establishments, a variety of occupational agents have been identified as probable allergens that caused work-related asthma in an individual. The department has identified more than 100 allergens for Michigan workers; there are about 350 documented agents known to cause WRA. A comprehensive listing of allergens, industries, and some occupations can be found at: www.remcomp.com/asmanet/asmapro/asmawork.htm#star.

The top seven allergens identified in Michigan account for over half of the WRA Michigan patients. They include: isocyanates (18.0%), metal-working fluids (12.1%), unknown sources in a manufacturing setting (6.5%), unknown sources in an office environment (6.1%), cleaning solutions (5.7%), exhaust/smoke/fumes (5.4%), and welding fumes (5.0%).

Michigan workers are potentially exposed to diisocyanates in plastic, rubber, and foam manufacturing, during installation of foam insulation, and other occupations. Isocyanates used in manufacturing processes include: methyl isocyanate (MIC), toluene diisocyanates (2,4-TDI and 2,6-TDI), methylene bisphenyl isocyanate (MDI), hexamethylene diisocyanate (HDI), isophorone diisocyanate (IPDI), meta-tetramethylene diisocyanate (TMXDI), methylene bis(4-cyclohexylisocyanate (MCHI), various polyisocyanates, and polymeric isocyanates.

MIOSHA regulates some of these compounds through 8-hour time-weighted average (TWA) exposure limits, ceiling limits that may not be exceeded, or 15-minute short-term exposure limits (STEL) in Part 301, the Occupational Health Standard for Air Contaminants.

Pilot Diisocyanates Project

The Occupational Health Commission is considering a diisocyanates standard to require an education and training program for companies that work with diisocyanates. The **Diisocyanates Voluntary Compliance Pilot Project** was created by the Consultation, Education and Training Division (CET) and Occupational Health Division (OHD) to collect information that could be used to support the Occupational Health Commission's efforts to promulgate the proposed standard in Michigan.

The requirements of the proposed standard focus on implementing an effective education and training program covering: the hazards, engineering controls, personal protective equipment, work practices, and emergency procedures related to employee exposure to diisocyanates.

The pilot diisocyanate outreach program was conducted with six Michigan employers to evaluate worker exposure and hazard communication training for MDI, HDI, and TDI, and to test the potential effectiveness of the proposed diisocyanate standard. CET industrial hygienists **William Lykes** and **Sherry Walker** coordinated the pilot project.

CET industrial hygienists reviewed all written programs, Log 200, and conducted employee interviews, before the training was conducted. During the plant survey, air monitoring was conducted if appropriate, or a review was done of any existing air monitoring data.

CET staff provided training to employees who were potentially exposed to diisocyanates during various manufacturing processes. The training topics included:

- Diisocyanates as potential allergens,
- Symptoms of asthma,
- The relationship between smoking and existing asthma or allergies,
- The specific areas and processes in the facility where diisocyanates are used,
- Results from air monitoring,
- Health effects to various organs,
- Chemical and physical properties of the diisocyanates in use in the plant,
- First aid measures,
- Exposure control methods,
- Work practice controls, and
- Spill or leak procedures.

The training information provided was directly related to how and where the diisocyanates were being used at each company. The information was used to design a site-specific training program which would bring the employer into compliance with the proposed standard.

Prior to the training, a pre-test was given to quantify the employees' knowledge of diisocyanates use in the workplace. Most of the employees could not identify the appropriate personal protection, common health hazards associated with diisocyanates exposure, and spill procedure for uncontrolled releases.

After initial training was completed, CET revisited the companies to administer a post test to gauge the effectiveness of the training. The scores showed the employees improved their knowledge, skills and attitudes regarding hazards, and proper use of diisocyanates and associated processes and equipment.

Employer Responsibility

It is important to reduce or eliminate potential exposure to diisocyanates and other allergens to the extent that is practical. Could another substance be substituted for a potential allergen? How can the operation be isolated? Can local exhaust ventilation be added or improved to capture and remove air contaminants from the worker's breathing zone? If the above are not feasible, have workers been provided with appropriate respirators and personal protective equipment?

OSHA has recently clarified its policy on the use of air purifying respirators to protect workers exposed to diisocyanates. Because the odor thresholds for most diisocyanates are higher than the various exposure limits, conventional organic vapor cartridge-type air-purifying negative-pressure respirators may not provide adequate protection. Check Part 451, MIOSHA Respiratory Protection Standard for more information.

If your company would like more information on the **Diisocyanates Pilot Project**, or information on education and training services, contact the **CET Division** at **517.322.1809**. ■

Did You Know...

Michigan law requires that work-related illnesses must be reported–by physicians, hospitals, clinics, and employers–to the state within 10 days.

For information on reporting or to obtain a copy of the *Occupational Disease & Injury Report for Physicians* form, call the Occupational Health Division at 517.322.1608.

To find out more about work-related asthma and other occupational illnesses, check out the MSU Department of Medicine website: www.chm.msu.edu/oem.

WORKPLACE SURVEILLANCE

Tracking Injuries, Illnesses, Accidents, Exposures, & Hazards

By: Suellen Cook, Safety Consultant
Consultation Education & Training Division

Surveillance programs serve an important function in identifying old, new and emerging problems requiring additional research and prevention efforts. In January 2001, the National Institute for Occupational Safety and Health (NIOSH) published the "***NIOSH Surveillance Strategic Plan***" for tracking occupational injuries, illnesses, and hazards. Their mission is to "provide national and world leadership to prevent work-related illness, injury and death by gathering information, conducting scientific research, and translating the knowledge gained into products and services."

NIOSH and federal OSHA co-sponsored the ***"National Conference on Best Practices in Workplace Surveillance: Identification and Tracking of Workplace Injury, Illness, Exposures, and Hazards***," Nov. 7-9, 2001, in Cincinnati. Keynote speakers, **Bruce Bernard** and **Boris Lushniak** of NIOSH, spoke on the workplace surveillance efforts by NIOSH at the World Trade Center due to the tragic events of September 11th. Also addressed by NIOSH were the importance of surveillance activities due to the recent anthrax events and the potential for bio-terrorism that continues to be a threat to worker safety and health.

The goals of the conference were to:

- Identify current practices for occupational surveillance;
- Identify research needs, methods, and opportunities;
- Identify new partnership opportunities;
- Promote dialogue, discussion and information exchange between participants.

MIOSHA is committed to strengthening the surveillance of high-risk industries and high-risk occupations for the prevention of occupational hazards, injuries and illnesses. CET Safety Consultants **Suellen Cook** and **Linda Long** presented, ***"MIOSHA's Strategic Plan for Reducing Amputations in Michigan***" during a session focusing on National and State Perspectives.

MIOSHA has developed a strategic plan to target establishments for inspections that have the most safety and health problems. Implementation of one aspect of the plan began in October 2000, and mandates MIOSHA to use education, targeted outreach, voluntary assistance and enforcement with the goal of reducing the number of amputation injuries by at least 15 percent in Michigan by 2003. Using a standardized surveillance tool for all onsite interventions, the impact of interventions by MIOSHA staff at targeted facilities can be measured. MIOSHA's outreach efforts include: seminars, half-day workshops, targeted mailings, articles, and onsite training programs customized to the employer's worksite. The impact of these interventions will be measured by use of the surveillance tools, and data will become available later in 2002.

Other participants in the National and State Perspectives session included OSHA representatives from Florida, Maine, the Bureau of Labor Statistics, and South Korea. The **Florida Division of Safety** described an ambitious plan that re-engineered their state's safety and health program using best practices of other states and developing specific programs to address Florida's workplace injury problems. Databases were developed using workers' compensation data and tracking systems were implemented to measure the successes and failures of the project. This new program emphasized the inspection of employers with high injury and illness rates, and targeted the program's efforts using consultation, training, education, and safety programs tailored to the employer's worksite. A conservative estimate of the impact of this outreach program implemented in 1998 represented a savings of approximately $11,105 per disabling compensable claim, with an overall savings of approximately $10.6 million on 957 claims.

The **Maine Department of Labor** has pilot-tested a concept recognizing the need for practical applications of occupational safety and health epidemiology for small businesses. In June 2001, Maine began training small businesses on how to develop safety interventions and conduct intervention effectiveness evaluations. The approach incorporated the used of surveillance data with the Haddon's Matrix and the PRECEDE Model supplementing the conventional OSHA type of training that focuses on industry standards and the use of the hierarchy of controls. Maine will continue to collaborate with small employers to generate case studies of interventions, success stories and best practices for dissemination among the safety community and employers.

A presentation by the **Korea Occupational Safety and Health Agency** (KOSHA) demonstrated that employee and employer concerns about safety and health in the workplace are similar whether you are working in a furniture company in southern Ohio, or in South Korea. KOSHA has developed a new surveillance system partnering with allergists to detect occupational asthma. This new surveillance system initiated in 1998 has proven effective to find new occupational illnesses, especially symptomatic diseases without specific signs like occupational asthma.

The **Bureau of Labor Statistics** (BLS) outlined the systematic approach involved in creating and conducting a special topic survey for respiratory use and practices. The BLS is currently conducting a survey on respiratory use and practices for ***NIOSH's Respirator Program*** to learn about the prevalence of respirator use in U.S. industries, as well as typical respirator practices in the workplace. The survey should be completed by March 2002.

The vision by NIOSH for workplace surveillance and prevention programs is that effective workplace surveillance with data will drive preventive practices. The nation's workforce is changing rapidly due to demographics, educational levels and social factors–and the nature of work is changing due to rapid computerization, technology and out-sourcing of business activities. All of these changes are impacting the health and safety of workers right now. The decisions made today using current workplace surveillance methods will have a lasting impact on the safety and health of workers in the future. To quote **Alexander D. Langmuir***, "Good surveillance does not necessarily ensure the making of the right decisions, but it reduces the chances of the wrong ones." ■

**Dr. Alexander Langmuir is considered the father of infectious disease epidemiology. He became chief epidemiologist for the Centers for Disease Control and Prevention (CDC) in 1949, and founded the CDC's Epidemic Intelligence Service (EIS). The EIS was established in 1951 following the start of the Korean War as an early warning system against biological warfare and man-made epidemics.*

Seong-Kuy Kang, M.D., Ph.D., Director, Center for Occupational Disease Research, Korea OSHA

2000 Michigan Census of Fatal Occupational Injuries

By: Gordon Spitzley, Analyst
MIOSHA Information Division

A total of 156 fatal work injuries were recorded in 2000, a decline of about 14 percent from the 1999 total of 182. This was the lowest number of fatalities since 1996, when 155 were recorded.

Injuries sustained in transportation accidents resulted in the death of 50 Michigan workers in 2000. This represents 32 percent of the 156 workers fatally injured in 2000. Highway accidents accounted for 24 fatalities or 15 percent of the total. Contact with objects and equipment resulted in the death of 37 workers, and 20 others were killed as the result of falls. Assaults and violent acts accounted for 26 deaths.

These findings are from the **Census of Fatal Occupational Injuries (CFOI)** conducted by the MIOSHA Information Division in cooperation with the Bureau of Labor Statistics (BLS) of the U.S. Department of Labor. The Census uses multiple sources to identify, verify, and profile work injuries that are fatal.

2000 CFOI Census Profiles

Major findings of the Michigan CFOI Census include:

- Transportation accidents led all other events and accounted for 32 percent of the 156 fatal occupational injuries in 2000. This was followed by Contact with Objects and Equipment at 24 percent, Assaults and Violent Acts with 17 percent, and Falls at 13 percent.
- Sixty two percent of the fatally injured Michigan workers were 25 - 54 years of age.
- Men comprised 92 percent of Michigan's fatally injured workers.
- Occupations with the largest number of worker fatalities were Transportation and Material Moving Operations, and Construction trades.
- Industry groups with the largest number of fatal work injuries in 2000 were Construction (29), Manufacturing (25), and Services (22).

Definitions

For a fatality to be included in the census, the decedent must have been employed (that is working for pay, compensation, or profit) at the time of the event, engaged in legal work activity or present at the site of the incident as a requirement of his or her job. These criteria are generally broader than the criteria used by federal and state agencies administering specific laws and regulations. (Fatalities that occur during a person's commute to and from work are excluded from the census counts.)

Information on work-related fatal illnesses are not reported in the BLS census and are excluded from the attached tables because the latency period of many occupational illnesses and the difficulty of linking illnesses to work make identification of a universe problematic.

Measurement Techniques

Data for the Census of Fatal Occupational Injuries are compiled from various state, federal and local administrative sources–including death certificates, workers' compensation reports and claims, reports to various regulatory agencies, medical examiner reports and police reports–as well as news and other non-governmental reports.

Diverse sources are used because studies have shown that no single source captures all job-related fatalities. Source documents are matched so that each fatality is counted only once. To ensure that a fatality occurred while the decedent was at work, information is verified from two or more independent source documents, or from a source document and a follow-up questionnaire. Approximately 30 data elements are collected, coded, and tabulated, including information about the worker, the fatal incident, and the machinery or equipment involved.

Federal/State Agency Coverage

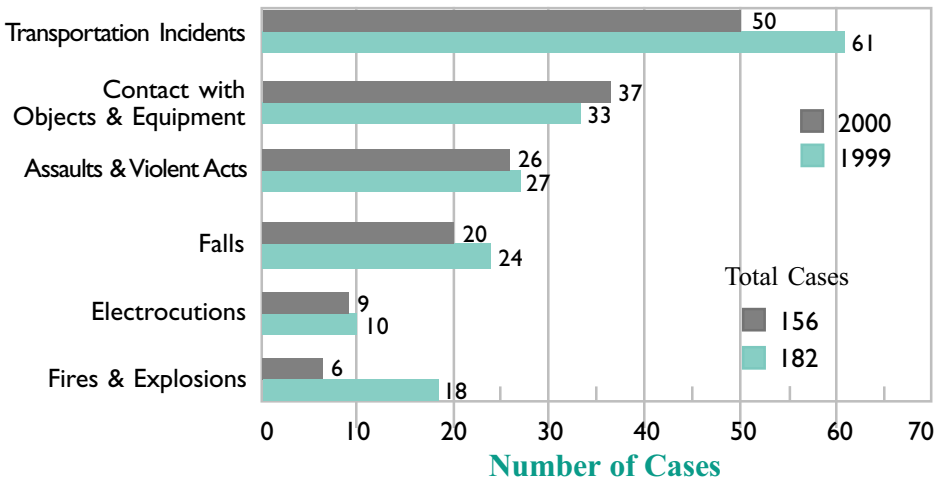
The Census of Fatal Occupational Injuries includes data for all fatal work injuries, whether they are covered by MIOSHA or other federal or state agencies or are outside the scope of regulatory coverage. Thus, any comparison between the BLS fatality census counts and those released by other agencies should take into account the different coverage requirements and definitions being used.

Several federal and state agencies have jurisdiction over workplace safety and health. OSHA and affiliated agencies in states such as Michigan with OSHA-approved safety programs cover the largest portion of the nations workers. However, injuries and illnesses occurring in certain industries or activities, such as coal, metal, and nonmetal mining and highway, water, rail, and air transportation, are excluded from MIOSHA coverage because they are covered by other federal agencies, such as the Mine Safety and Health Administration, and various agencies within the Department of Transportation. Fatalities occurring in activities regulated by federal agencies other than MIOSHA are included in the count of fatal work injuries for Michigan in 2000.

Fatalities occurring among several other groups of workers are generally not covered by any federal or state agencies, including self-employed and unpaid family workers, which accounted for about 13 percent of the fatalities.

For further information, please contact the **MIOSHA Information Division** at **517.322.1851**. ■

Michigan Census of Fatal Occupational Injuries by Major Event or Exposure - 1999 & 2000



Korea OHSA Visitors

On Nov. 8, 2001, three representatives of Korea OSHA (KOSHA), **Jeong Yeol, Yang**, Assistant Manager, KwangJu Regional Office; **Chung, Eun Kyo**, Manager, Ergonomics Team; and **Hong-Jin Jeon**, Health Division/Assistant Manager, Seoul Regional Office; visited the MIOSHA program.

The KOSHA delegation was in the United States to study safety and health initiatives in the United States, and specifically ergonomics programs. They were interested in policy and program initiatives that address the prevention of musculoskeletal disorders. They attended a course at the Harvard School of Public Health titled, "***Ergonomics and Human Factors***."

While in Michigan, the delegation visited the World Headquarters of Ford Motor Company. Ford Ergonomist **Brad Johnson** discussed the Ford/UAW Ergonomics program, their joint labor/management committee, and their data management systems.

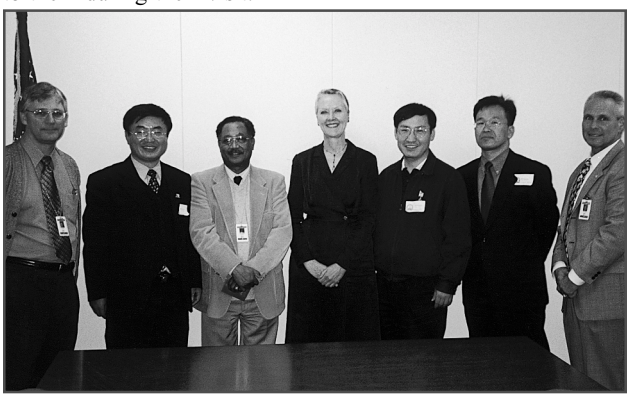
BSR Deputy Director **Doug Kalinowski** welcomed the KOSHA delegation to Michigan and gave them an overview of state plans in relation to federal OSHA and an overview of the MIOSHA program. Kalinowski also covered the MIOSHA Strategic Plan. Preventing ergonomic injuries is a key element of the plan.

Occupational Health Division Regional Supervisor **Robert Pawlowski** gave them a briefing on the MIOSHA Occupational Health compliance program. He also discussed the MIOSHA Ergonomic Compliance Guidelines for conducting compliance inspections focused on ergonomic hazards, particularly specific SIC Codes targeted by the Strategic Plan.

An overview of Consultation Education and Training (CET) Division services was provided by CET Deputy Chief **Dr. Ayalew Kanno** and CET Chief **Maryann Markham**. They also discussed the CET Ergonomic Outreach Program, which is designed to help employers implement an ergonomics program in the workplace. The CET Division provided them with a complete set of ergonomic training materials.

In addition, the delegation was introduced to the Ergonomics Awards Program, which recognizes employers who develop innovative ergonomic strategies and achieve a reduction in injuries and illnesses in their workplaces.

The delegation was very pleased with the information, prevention strategies and accompanying material that was provided to them during their visit. ■



Robert Pawlowski, OH Regional Supervisor; Jeong Yeol, Yang, Assistant Manager, KwangJu Reg. Office, KOSHA; Dr. Ayalew Kanno, CET Deputy Chief; Maryann Markham, CET Chief; Chung, Eun Kyo, Manager, Ergonomics Team, KOSHA; Hong-Jin Jeon, Health Division/Assistant Manager, Seoul Reg. Office, KOSHA; Doug Kalinowski, BSR Deputy Director.

Wage & Hour News

Bill Strong Elected to ILSA Board

At the national conference of the **Interstate Labor Standards Association** (ILSA) in October, Wage & Hour Chief **Bill Strong** was elected to serve as Secretary-Treasurer. Michigan was one of the states that founded ILSA in 1966, and has played a very active role in helping the association grow. It is comprised of state labor representatives from 37 states, the District of Columbia, Puerto Rico, Guam, the Virgin Islands, Canada, Taiwan, as well as representatives of the U.S. Department of Labor.

The goal of the association is to encourage and assist in the administration of labor laws; provide fair and equitable delivery of services and protections to wage earners; provide a safe and legal work environment for young workers; and assist those employers operating in a fair and just manner by assuring consistent administration of labor standards laws.

The duties of the Secretary-Treasurer include: has charge of all books, papers, records and other documents of the association; receives and has charge of all dues and other monies; keeps full and complete records of all receipts and disbursements; keeps the minutes of all meetings of the association and the executive board; conducts all correspondence pertaining to the office; and compiles statistics and other data as may be required. The secretary-treasurer, together with the president, presents a detailed written report of receipts and expenditures to the convention.

Bill is looking forward to protecting and building on the excellent traditions of this organization, as well as leading it into the future.

Customer Survey

Recently the Wage & Hour Division conducted a customer survey of external customers–employers and employees. We are very pleased to announce that 94 percent of the respondents found the Wage & Hour staff to be professional and courteous.

We are not always able to reach determinations or resolve cases that result in a win/win for the employer and employee. In many cases either the employer or employee feels that the outcome is not in their best interest. Despite the fact that our customers may not always like the news they get, they felt they were treated professionally and with courtesy by division staff.

Some of the surveys included written comments; the positive comments far outweighed the negative comments. We will be analyzing the comments to see if we can continue to improve our services.

Many of our customers are communicating with us through e-mail and visiting our website to obtain our publications and claim forms. In September 2001 alone, we had over 2,500 visits.

Some of the division's accomplishments toward continuing to provide excellent customer service include:

- We have eliminated a backlog of over 500 cases.
- We have almost cut in half the amount of time that it takes to reach a determination on cases. Last year, it took an average of 134 days to reach a determination. Today the average time is 62 days.
- We have significantly increased the amount of wages collected for claimants. Collections this past fiscal year are up 37 percent from the previous fiscal year, to almost 2.8 million dollars.

Wage & Hour Division
517.322.1825
www.cis.state.mi.us/bsr/divisions/wh/home.htm

CET Awards

MIOSHA recognizes the safety and health achievements of Michigan employers and employees through CET Awards, which are based on excellent safety and health performance.

(Front) Deb Gundry, MIOSHA Safety Consultant; Kathy Gurnee, EH&S Coordinator; Vicki Chase, Safety Committee Member; Dr. Kalmin Smith, CIS Deputy Director; Ken Yungkans, Plant Manager. (Back) Stoney Prowell, Danielle Gavin, Tim Russ, Jasen Thompson, Ryan Kmeciak, Safety Committee Members.

Keykert USA - Webberville Plant

On Oct. 25th, Keykert USA, Inc.'s Webberville plant received the **CET Bronze Award**, which recognizes leadership and commitment to safety resulting in significant improvement of their MIOSHA record.

"Keykert USA is an outstanding economic success story in Michigan," said CIS Deputy Director **Dr. Kalmin Smith**. "Since 1999, the Webberville plant doubled the size of its workforce, while at the same time its lost-time injuries were cut in half."

CIS Deputy Director Smith presented the award to **Ken Yungkans**, Plant Manager. Yungkans credits the efforts of Environmental, Health & Safety Coordinator **Kathy Gurnee**, the plant's **Safety Committee** and the entire production team for the accomplishment.

"The safety of our people really is our number one concern here. We're living proof that improved quality and improved efficiency, don't have to come at the expense of our employees' well-being," said Yungkans.

Keykert USA is a world leader in the manufacture of automotive locks and latching systems. *(Afternoon Safety Committee Members, not shown in photo: Jeff Setla, Kevin Munro, Byron Taylor, Dennis Deshler.)*

Bananza Air Management Systems, Inc.

On Nov. 7th, Bananza Air Management Systems, Inc. of Kentwood received the **CET Plaque** for five years of an outstanding safety and health record.

"It's an honor to be here today to present the CET Plaque to Bananza Air Management Systems for their outstanding efforts–over a five-year period–to protect the safety and health of their employees," said **BSR Director Doug Earle**.

BSR Director Earle presented the award to **Larry Kensington**, President, and **Ken Brinks**, General Manager, of Bananza Air Management Systems. All employees attended the award presentation.

"We are proud to be recognized by MIOSHA for our achievements in employee health and safety," said Kensington. "Our safety record speaks volumes as to employee participation in this accomplishment."

Bananza Air Management Systems, Inc., is a wholly-owned subsidiary of Rapid Engineering, Inc. They are dedicated to producing the highest quality gas-fired heating equipment for commercial and industrial heating and ventilation systems.

BSR Director Doug Earle (Far L.) presents the CET Plaque to Bananza President Larry Kensington (2nd L.), Bananza General Manager Ken Brinks (Far R.), and all Bananza employees.

CET Supervisor Mike Everett, Carleton Plant Manager Don Tullman, BSR Director Doug Earl, Carleton HR Manager Bill Dougherty, and CET Safety Consultant Jennifer Clark-Denson.

Guardian Industries - Carelton Plant

Guardian Industries' Carelton facility received the **CET Bronze Award**, which recognizes leadership and commitment to safety resulting in significant improvement of their MIOSHA record, on Dec. 4th.

"I am pleased to recognize the outstanding safety and health achievements of the employees and management at the Carleton plant," said BSR Director **Doug Earle**. "I applaud your efforts to make workplace safety your number one concern."

Earle presented the award to Carleton Plant Manager **Don Tullman**. Upon Tullman's arrival in 1998, safety and loss control became their number one priority. "I learned early from Guardian mentors that a safe and well-kept plant provides the foundation for a more content and productive workforce," said Tullman.

The Carleton plant is a major employer in Monroe County, with nearly 500 employees, and specializes in architectural and automotive glass products, including glass coatings. Guardian Industries Corp. is a leading worldwide manufacturer of float glass and fabricated glass products for the commercial and residential construction industries, based in Auburn Hills.

Education & Training Calendar

Date	Course Location	MIOSHA Trainer Contact	Phone
February			
14	Part 74 Fire Fighters Standard Overview Clinton Township	Lee Jay Kueppers Anthony Kowalski	586.498.4055
19	Bloodborne Infectious Diseases Livonia	Jenelle Thelen Cont. Education Serv.	734.462.4448
19	MIOSHA Recordkeeping Grand Rapids	Jerry Swift Ravell Trook	616.698.1167
20 & 21	Mechanical Power Press Clarkston	Richard Zdeb Peggy Desrosier	248.625.5661
20 & 27	Construction 10-Hour Safety Seminar/Major Fatality Causes Southfield	Jerry Faber Keiyania Mann	248.948.7000
21	When MIOSHA Visits Marquette	Dan Maki Kellie Barry-Angeli	906.226.6591
26	When MIOSHA Visits Westland	Linda Long Toni Herron	734.427.5200
26	Industrial Machine Guarding Cadillac	Jerry Medler Cindy Swiler	231.775.2458
26 & 27	Fundamentals of Industrial Hygiene Lansing	Bill Lykes Sandy Long	517.394.4614
28	MIOSHA Recordkeeping Workshop Jackson	Quenten Yoder Autumn	517.782.8268
March			
5	Recordkeeping, Accident Investigation & Work-Comp Strategies Dearborn	Linda Long Pat Pitz	313.791.4552
7	MIOSHA Recordkeeping Seminar Benton Harbor	Micshall Patrick Mary Gustas	800.704.7676
12	Industrial Machine Guarding Clinton Township	Brian Dixon Teri Gribbin	810.498.4002
14	Fireworks Safety for Fire Departments Bay City	Kee Jay Kueppers Kay Wagner	989.892.8601
19, 20, 21	Safety & Health Administrator Course Harrison	Bob Carrier Karen Jesse	989.386.6629
April			
2	Safety & Health for Nursing Homes & Long-Term Care Facilities Livonia	Suellen Cook Schoolcraft College	734.462.4448
10	Safety Solutions for Healthcare Harrison	Bob Carrier Karen Jesse	989.386.6629
23	Industrial Accident Prevention & Machine Guarding Westland	Linda Long Toni Herron	734.427.5200
May			
7	MIOSHA Recordkeeping Seminar Monroe	Jennifer Clark-Denson Vicki Sherman	734.384.4127
14, 15, 16	Safety & Health Administrator Course Cadillac	Jerry Medler Cindy Swiler	231.775.2458

Co-sponsors of CET seminars may charge a nominal fee to cover the costs of equipment rental, room rental, and lunch/refreshment charges. For the latest seminar information check our website, which is updated the first of every month: www.cis.state.mi.us/bsr/divisions/cet/cet_cal.htm.

Construction Safety Standards Commission

Labor

Mr. Carl Davis**
Mr. Daniel Corbat
Mr. Andrew Lang
Mr. Martin Ross

Management

Mr. Peter Strazdas*
Mr. Charles Gatecliff
Mr. Thomas Hansen
Ms. Cheryl Hughes

Public Member

Mr. Kris Mattila

General Industry Safety Standards Commission

Labor

Mr. Michael D. Koehs*
Mr. James Baker
Mr. Tycho Fredericks
Mr. John Pettinga

Management

Mr. Timothy J. Koury**
Mr. Michael L. Eckert
Mr. Thomas Pytlik
Mr. George A. Reamer

Public Member

Ms. Geri Johnson

Occupational Health Standards Commission

Labor

Dr. G. Robert DeYoung
Ms. Cynthia Holland
Capt. Michael McCabe
Ms. Margaret Vissman

Management

Mr. Robert DeBruyn*
Mr. Michael Lucas
Mr. Richard Olson
Mr. Douglas Williams

Public Member

Dr. Darryl Lesoski**

**Chair **Vice Chair*

Standards Update

World Class Crane Management Seminar

Several members of the **General Industry Safety Standards Part 18 Overhead and Gantry Cranes Advisory Committee** attended the **World Class Crane Management Seminar** that was held October 22-24, 2001, in Seattle, Washington. The purpose of the seminar was to help companies integrate quality and safety improvement standards, crane design, manufacturing, service excellence, and leading edge crane information and training systems, to achieve world-class competitiveness.

Focal points of the seminar included: management strategies, crane safety standards development, crane technology development, crane maintenance engineering, and education and training. The conference also included a Boeing Everett Factory tour, which is listed as the largest building in the world by volume. Attendees were able to see a crane system where four hoisting machineries are used to move and rotate airplane structures in the air.

Steve Branstrom, an instructor with the Operating Engineers Local 324 JATF, and **Connie Munschy**, Standards Chief, presented programs on the "**Role of an Advisory Committee in the Promulgation of Administrative Rules**," and on "**Proposed Amendments to MIOSHA's Part18**."

Sponsors of the seminar were the **Boeing Company**, the **International Organization of Standardization** (ISO), the **University of Michigan-Dearborn School of Management**, and **CranePartner International, Inc**.

Rolf Lovgren, President and CEO of CranePartner International, Inc., and **Garry Waissi**, Dean and Professor, University of Michigan-Dearborn, moderated the conference. Lovgren is also a Part 18 Advisory Committee member, as well as Chairman of **ISO TC96-SC5 Cranes.** Lovgren recognized MIOSHA as a leader in the promulgation of rules that address safety concerns in the crane industry, and commended the work of the Part 18 Advisory Committee. He also noted the contributions of Standards Chief **Connie Munschy**, the **Standards staff** and General Industry Supervisor **Robin Spaulding**.

The proposed amendments to MIOSHA's Part 18 are intended to meet current OSHA requirements, and international requirements, to enhance the safety of employees through training requirements, through inspection and maintenance procedures, and safe lifting and rigging procedures, and are drawn from national and international standards.

On December 5, 2001, MIOSHA held a public hearing on these proposed rules. All comments will be reviewed by the Part 18 Advisory Committee and the General Industry Safety Standards Commission.

Several conference attendees from other organizations expressed an interest in putting parts of the proposed Michigan standard in their company operations manuals. (All advisory committee members covered their own travel expenses.)

Part 18 Advisory Committee Members

Labor

Steve Branstrom, Safety Instructor
Operating Engineers Local 324 JATF
Gary Ganton, Co-ordinator
IUOE Local 324
Richard Taylor, Retired
GM-BOC
David Saksewski, Safety Representative
UAW

Management

David Holmes, Jr., Engineer
Lift Tech Corporation
Rolf Lovgren, Chairman
ISO TC-96SC5 Cranes
Cesar Ilagan, Senior Engineer
Ford Motor Company
Ted Stanislowski, Maintenance
Crane Partner International

MIOSHA

Robin Spaulding, Supervisor
General Industry Safety Division
Connie Munschy,Chief
Standards Division

The mission of the MIOSHA advisory committees is to write rules that are clear, and speak to the provision of a safe and healthy work environment. The most common request of standards users are that referenced materials be updated or included, for ready availability to the users.

To contact Connie Munschy, Chief of the Standards Division, or any of the Commissioners, please call the Standards Division Office at 517.322.1845.

Status of Michigan Standards Promulgation

(As of December 5, 2001)

Occupational Safety Standards

General Industry

Part 08.	Portable Fire Extinguishers	Approved by Commission for review
Part 18.	Overhead and Gantry Cranes	Public Hearing
Part 19.	Crawler, Locomotives, Truck Cranes	At Advisory Committee
Part 20.	Underhung and Monorail Cranes	Approved by Commission for review
Part 58.	Vehicle Mounted Elevating & Rotating Platforms	Approved by Commission for review
Part 74.	Fire Fighting/Amendment #2	Final, effective 12/5/01

Construction

Part 07.	Welding & Cutting	Approved by Commission for review
Part 14.	Tunnels, Shafts, Cofferdams & Caissons	Draft to Commission for review
Part 18.	Fire Protection & Prevention	At Advisory Committee
Part 22.	Signs, Signals, Tags & Barricades	Final, effective 7/31/01
Part 26.	Steel and Precast Erection	RFR approved by ORR
Part 30.	Telecommunications	Approved by Commission for review
Ad Hoc	Communication Tower Erection	Approved by Commission for review

Occupational Health Standards

General Industry

Abrasive Blasting	Final, effective 6/6/01
Air Contaminants	Final, effective 5/9/01
Bloodborne Infectious Diseases	Final, effective 10/18/01
Ergonomics	Withdrawn 3/13/01
Forging Machines R 3210	Rescinded due to duplication
Illumination R4104-4106 (Occupational Health rules only)	Final, effective 7/17/01
Medical Services/First Aid R4401	Final, effective 7/31/01
Powered Industrial Trucks R3225 (OH Rules only)	Rescinded due to duplication
Respirators in Dangerous Atmoshperes (OH Rules only)	Rescinded due to replacement
Sanding Machines R 3230	Rescinded due to duplication
Ventilation for Certain Hazardous Locations R 3110	Rescinded due to duplication

Construction

Gases, Vapors, Fumes, Dust & Mist R6201	Informal approval by LSB
Sanitation for Construction R6615	Approved by Commission for review
Illumination for Construction R6605	Rescinded due to duplication
Medical Services & First Aid for Construction R6610	Rescinded due to duplication

Administrative Rules

Part 11.	Recording and Reporting of Occupational Injuries and Illnesses	At ORR for formal certification

The MIOSHA Standards Division assists in the promulgation of Michigan occupational safety and health standards. To receive a copy of the MIOSHA Standards Index (updated May 2000) or for single copies and sets of safety and health standards, please contact the Standards Division at 517.322.1845.

RFR	Request for Rulemaking
ORR	Office of Regulatory Reform
LSB	Legislative Services Bureau
JCAR	Joint Committee on Administrative Rules

Variances

Published January 22, 2002

Following are requests for variances and variances granted from occupational safety standards in accordance with rules of the Department of Consumer & Industry Services, Part 12, Variances (R408.22201 to 408.22251).

Variances Requested Construction

Part and rule number from which variance is requested
Part 8 - Material Handling - Rule R408.40833, Rule 833(1)
Summary of employer's request for variance
To allow employer to tandem lift structural steel members under controlled conditions and with stipulations.
Name and address of employer
Ace Steel Erection, Inc.
Location for which variance is requested
SEI - Zeeland Power Plant, Zeeland
Name and address of employer
American Erectors, Inc.
Location for which variance is requested
Imlay City Pipe Gallery, Imlay City
Ghafari Building #2, Southfield
New Hartland High School, Hartland
Name and address of employer
American Iron Works
Location for which variance is requested
Goodrich Community High School, Goodrich
Name and address of employer
Assemblers, Inc.
Location for which variance is requested
Taft Elementary School, Detroit
Name and address of employer
Cadillac Iron, Inc.
Location for which variance is requested
William Beaumont Hospital, Oak Park
Name and address of employer
Douglas Steel Erection Company
Location for which variance is requested
Detroit Symphony Orchestra Hall Expansion, Detroit
Name and address of employer
General Steel Erectors, Inc.
Location for which variance is requested
The Bishop Creek Project, Novi
LOC Project, Plymouth
Name and address of employer
Johnson Steel Fabrication, Inc.
Location for which variance is requested
The Dow Chemical Company, Midland
Name and address of employer
McGuire Steel Erection, Inc.
Location for which variance is requested
MSU Animal Health Lab, Lansing
GDX Automotive, Farmington Hills
Pinnacle Office Park, Novi
Richmond Shopping Center, Richmond
Name and address of employer
R & B Steel Company
Location for which variance is requested
Auto Owners Office Addition, Lansing
Name and address of employer
SCI/Steelcon
Location for which variance is requested
Western Michigan University, Kalamazoo
Name and address of employer
Sova Steel, Inc.
Location for which variance is requested
Parisian Meadowbrooke Village, Rochester Hills
Name and address of employer
Whaley Steel Corp.
Location for which variance is requested
CMU Health Professionals Bldg., Mount Pleasant
Name and address of employer
Whitmore Steel
Location for which variance is requested
G M Powertrain, Pontiac
Wayne State University Welcome Center, Detroit
General Motors Media Vehicle Prep. Facility, Milford
Schultz Elementary School, Detroit
Ford Child Care, Ypsilanti

Part and rule number from which variance is requested
Part 10 - Lifting and Digging Equipment - R408.41025, Rule 1025 (e)(f)
Summary of employer's request for variance
To permit employees to work beneath a suspended load under controlled conditions.
Name and address of employer
John E. Green Company
Location for which variance is requested
William Beaumont Hospital, Royal Oak

Part and rule number from which variance is requested
Part 32 - Aerial Lift Platforms - Rule R408.43209, Rule 3209 (8)(b) & Rule 3209 (8) (c)
Summary of employer's request for variance
To allow employer to firmly secure a scaffold plank to the top of the intermediate rail of the guardrail system of an aerial lift for limited use as a work platform according to certain stipulations.
Name and address of employer
Applegate, Inc.
Location for which variance is requested
8521 Guinea Road, Lansing
Name and address of employer
Midwest Steel, Inc.
Location for which variance is requested
General Motors Tech Center Project, Warren
Name and address of employer
Modern Mirror & Glass Co.
Location for which variance is requested
General Motors Tech Center, Warren
Name and address of employer
Motor City Electric Co.
Location for which variance is requested
General Motors Technical Center, Warren
Name and address of employer
Ventcon, Inc.
Location for which variance is requested
General Motors Corp. Warren Technical Center, Warren

Variances Granted Construction

Part and rule number from which variance is requested
Part 8 - Material Handling - Rule R408.40833, Rule 833(1)
Summary of employer's request for variance
To allow employer to tandem lift structural steel members under controlled conditions and with stipulations.
Name and address of employer
Ace Steel Erection, Inc.
Location for which variance is requested
Mountain Grand Lodge & Spa, Grand Rapids
Name and address of employer
American Erectors, Inc.
Location for which variance is requested
Rochester High School Addition, Rochester
Name and address of employer
Assemblers, Inc.
Location for which variance is requested
Center for Forensic Psychiatry, York Township
Name and address of employer
Johnson Steel Fabrication, Inc.
Location for which variance is requested
Saint Joseph Mercy Hospital, Ann Arbor
Name and address of employer
McGuire Steel Erection, Inc.
Location for which variance is requested
Welch Rd. Center, Commerce Twp.
National Corp. Bldg. "C," Fowlerville
Brighton Ford Mercury Body Shop, Brighton
Municipal Employees Retirement System, Lansing
Oakland Towne Square Bldg. A, Southfield
NSK Corporation, Ann Arbor
47th District Court Bldg., Farmington Hills
GM Bldg. 105- Proving Grounds, Milford
New Holt High School, Holt
Everest Academy-Kinder Bldg./Powerhouse, Clarkston
Southfield Public Library, Southfield
Name and address of employer
Pioneer, Inc.
Location for which variance is requested
Grand Valley Health Professions, Grand Rapids
Name and address of employer
Sova Steel, Inc.
Location for which variance is requested
Eberspacher Project, Novi
Maple Office Building Project, Troy
Rochester Elementary, Oakland Township
Jackson County Medical Facility, Jackson
Optrex, Plymouth
Name and address of employer
Whaley Steel Corp.
Location for which variance is requested
Jonesville High School, Jonesville
Name and address of employer
Whitmore Steel
Location for which variance is requested
Lake Orion Middle School, Lake Orion

Part and rule number from which variance is requested
Part 32-Aerial Lift Platforms-R408.43209, Rule 3209 (8)(c)
Summary of employer's request for variance
To allow employer to firmly secure a scaffold plank to the top of the intermediate rail of the guardrail system of an aerial lift for limited use as a work platform provided certain stipulations are adhered to.
Name and address of employer
Denn-Co Construction, Inc.
Location for which variance is requested
General Motors Tech Center, Warren
Name and address of employer
Master Mechanical Insulation
Location for which variance is requested
Northwest Airlines Midfield Terminal Site, Romulus
Name and address of employer
Pace Mechanical Services Inc.
Location for which variance is requested
General Motors Tech Center, Warren ■

Ergonomics

Cont. from Page 4

Workplace Layout–describes how the work equipment is arranged in the workplace. This description may be verbal, such as "worker seated at work bench," or the description may be graphic, such as a blueprint.

Work Equipment–is any device used to accomplish or facilitate accomplishing the work objective. Examples include presses, jigs, hoists, hand tools, document holders, and seating.

In some cases equipment is commercially available, so it may be necessary only to look in a catalog to determine exact sizes, weights, and capacities. In other cases the equipment may be unique to the job and require complete on-the-job documentation. In some cases the equipment may be modified by the worker and provide insight into ways of reducing ergonomic stresses.

Materials–include objects that go into the product. In assembly operations these might include parts, lubricants, coatings, and packing materials; in clerical work, documents and information; in meat processing, pieces of meat and bags of additives.

Sources of Information

There are a variety of sources of information which can be used to conduct the job analysis. They include the following sources.

Engineering, Personnel, and Drawings–Work standards, methods, process data, and plant layouts often can be obtained from industrial, manufacturing, product, facility, and plant engineering departments. Depending on the sophistication of these data, it may be possible to complete much of the job analysis off-site.

Formal job descriptions often can be obtained from personnel departments; however, these descriptions tend to emphasize worker qualifications in terms of worker attributes such as education or strength and dexterity, rather than in terms of job attributes such as reach distances, forces, and work rates.

On-site Inspection–An on-site inspection always should be performed to verify information obtained in job descriptions and drawings and to collect other information needed for the analysis. The on-site visit also will afford an opportunity to interview supervisors and workers.

Differences between the published method and layout and the actual method and layout are common. Workers often find ways of arranging their work and performing the motions that are faster and easier than those designed by engineers.

In addition, certain pieces of work equipment may have difficulties that cause workers to abandon them in favor of manual methods. Similarly, there may be differences from worker to worker owing to differences in body size, strength, and skill or to differences in work equipment.

Supervisor and Worker Interviews–Care must be taken in worker and supervisor interviews to avoid suggesting responses. For example, when a person of authority asks a worker, "Doesn't that tool hurt your hand?" it suggests that there is something wrong with the tool.

Whenever possible, questions should be asked in ways that provide choices. For example, ask "What do you like best about the tool?" Followed by "What do you like the least?" Follow-up questions can be used to provide additional information.

Summary

Musculoskeletal disorders are a major cause of lost time in many industries. In Michigan, MSDs account for one-third of all workers' compensation costs each year. Once a job analysis is performed to identify the major stresses, interventions can be designed by the employer to prevent ergonomic injuries and illnesses. To be effective, interventions need to be tailored to specific work conditions. In the Spring 2001 issue we will cover suggested interventions for the six risk factors listed above. ■

Working Women

Cont. from Page 5

NIOSH is conducting studies of women exposed to the following hazardous substances:

■ *Ethylene oxide*: Ethylene oxide (ETO) is used to sterilize medical supplies. More than 100,000 women are exposed to ETO in the workplace. Hospital workers and workers involved in sterilization of medical supplies may be at risk of exposure to ETO.

■ *PCBs*: Polychlorinated biphenyl compounds (PCBs) were produced commercially for use in the electrical industry until 1977. Banned in 1977, products made with PCBs remain in the workplace and the environment. NIOSH is investigating a potential link between PCB exposure and breast cancer.

■ *Perchloroethylene*: Studies of working women exposed to perchloroethylene (PERC), the main solvent used in the drycleaning industry, will help evaluate its connection with cervical cancer. An estimated half of drycleaning workers in the United States are women.

Health Care Workers

In the growing health care industry, where a complex range of hazards exists, about 80 percent of the workforce if female. Of the 4.3 million nurses and nursing aides in the U.S., 92 percent are female.

In addition to being at risk for incidents of musculoskeletal disorders, workplace violence, and exposure to hazardous substances, health care workers face other hazards including latex allergy and needlestick injuries. NIOSH has established a new initiative to study the health and safety of health care workers.

Needlestick Injuries: Between 600,000-800,000 needlestick injuries occur annually in health care settings, mostly involving nurses. These injuries pose both physical and emotional threats to health care workers, as serious infections from bloodborne pathogens (such as hepatitis B virus, hepatitis C virus, and human immunodeficiency virus [HIV]) may result.

Latex Allergy: Health care workers may have an increased risk for developing latex allergy due to their use of latex gloves. Among health care workers who experience frequent latex exposure, 8-12 percent develop sensitivity to latex. Latex sensitivity may lead to symptoms of latex allergy, such as skin rashes; hives; nasal, eye, or sinus symptoms; asthma; and (rarely) shock.

Publications

NIOSH has published numerous documents that are relevant to the health and safety of women in the workplace. To request any of these publications, call NIOSH at 1.800.356.4674, or visit their Website at www.cdc.gov/niosh. ■

Ground Zero

Cont. from Page 1

other chemicals.

Physical hazards also included heavy machinery, massive cranes, hot steel, gas cylinders, and shifting piles of debris. There was great concern of biohazards from human remains. During the first three weeks after the attack, construction workers, firefighters, police officers and others received medical attention 6,342 times for burns, broken bones, sprains and breathing problems.

Many emergency and search workers also experienced significant amount of psychological stress. Working among 16 acres of destruction, the realization that more than 3,000 people died, the loss of peers, and the search for human remains and evidence, was overwhelming for many. The magnitude of the impact of this work caused the New York City Police Department to **order** mental health counseling for all 55,000 its of department members. The New York City Fire Department also developed a strategy to counsel their personnel.

Stress Reactions at Disaster Scenes

Workplace disasters like this differ from typical stressful life events by being outside the range of usual employee experiences and would be markedly distressful to anyone who experienced the event, witnessed the incident, and /or who had to continually expose themselves to the post-incident scene.

The more unusual and terrifying the incident, the greater the risk that those employees who experienced the event, directly or indirectly, may experience a range of acute stress reactions.

The greatest risk for post-traumatic stress is for those employees who directly experience the visual, auditory, olfactory, and physical impact of the traumatic incident. Certainly, the horror of these attacks has affected all of us. Many of these factors were experienced by thousands of people, directly and vicariously.

In such traumatic events, the following factors influence the intensity of the employee's response:

- Amount of terror, horror, destruction or injury witnessed;
- Whether or not the employee's life was threatened;
- Level of loss;
- Employee's role in the traumatic incident;
- Degree of perceived helplessness and powerless;
- Seeing/causing another employee to be killed or severely injured;
- Properties of the post-incident environment;
- Length of time exposed to traumatic stimuli;
- Availability of psychological support.

Immediate Reactions

During the first hours after a traumatic incident, employees may experience a period of shock, disbelief, emotional numbness, powerlessness, and hyper-arousal. During the next few days and weeks, they may experience a wide range of physical, emotional, and thought pattern disturbances.

While most acute stress symptoms will begin to subside after a few weeks, 20 percent or more of employees may continue to have acute or post-traumatic stress problems. In addition, some individuals who have no immediate reactions may begin to show delayed onset symptoms months or even a few years after the incident.

Post-Traumatic Stress Reactions

Emotional

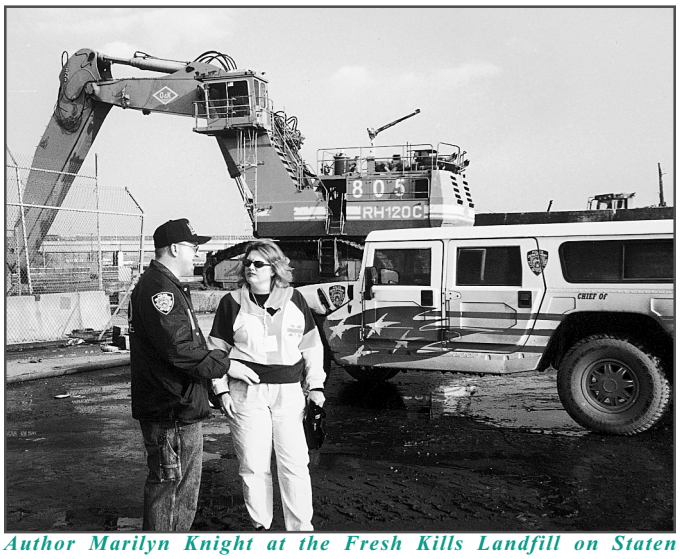
Numbness, Anxiety and Fear, Depression, Withdrawal, Loss of Motivation, Pervasive Vulnerability, Fear of a repetition, Avoidance, Sorrow, Guilt, Anger/ Rage, and Grief.

Physical

Shock, Restlessness, Hyper-arousal, Appetite Change, Sleep Difficulties, Inability to Relax, and Crying spells.

Mental

Disbelief, Flashbacks, Nightmares, Painful Memories, Self-Blame, Decreased Concentration, Confusion, Forgetfulness, and Confusion.



Author Marilyn Knight at the Fresh Kills Landfill on Staten Island.

Crisis Intervention

Early Intervention by employers, union and professional mental health personnel is the best prevention against employees developing more difficult traumatic stress reactions. Since acute stress reactions usually occur regardless of pre-incident personality, it is important to provide immediate crisis intervention services to all affected employees as a prevention measure. This is the ideal strategy for managing the potential risk of employees developing stress problems that may later interfere with their ability to work and be productive.

Authors Marilyn Knight (L) and Ken Wolf (C) with two U.S. Army Infantry responders.

Work-Site Crisis Intervention after a traumatic incident should be conducted by qualified mental health, human resource, occupational medicine professionals and in some cases, trained peers. Ideally, some interventions should take place at, or near, the scene if possible, within the first few days or weeks after the event occurs.

These activities should include:

- Discussions about the impact of the event on employees;
- Attempts to normalize the reactions employees are experiencing;
- Preparation for possible " normal" stress reactions;
- Additional crisis counseling; and
- Follow-up support.

It is important that services be provided first to those at greatest risk. Contact, referral and outreach to other employees, family members can enhance the preventative nature of the company's response.

Crisis Intervention Goals

The goals of work-based crisis intervention after traumatic incidents include:

- Provide safety and support to employees involved;
- Encourage emotional ventilation;
- Promote recall of the incident;
- Explore the personal impact of the

Cont. on Page 19

Ground Zero

Cont. from Page 18

trauma on the employees;

- Normalize stress reactions that they may experience;
- Educate employees about acute stress reactions;
- Suggest coping strategies;
- Encourage employees to seek counseling if stress problems continue; and
- Restore stability to company equilibrium.

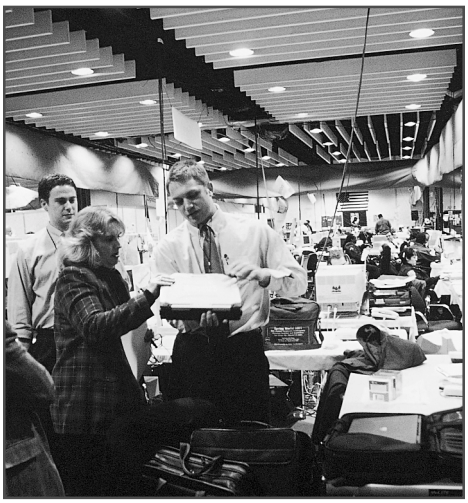
Leadership Support Strategies

It is helpful for leadership to acknowledge that the reactions employees may be experiencing, are the normal reactions, normal people have to abnormal event such as this. Supervisor's and union representative's support to bring work groups together in order to give them the opportunity to verbalize, ventilate and validate their emotional reactions can be quite helpful. These structured settings of team meetings can help to reaffirm a sense of unity, mission, and compassion, and to maintain high morale during periods of uncertainty.

Other strategies for consideration that managers and union representatives may want to demonstrate are to:

- Lead by example,
- Be available,
- Send frequent communications,
- Maintain office routines,
- Provide hope and reassurance, and
- Disseminate information frequently.

Certainly, the tragedy of these deliberate attacks on our country has aroused unsettling emotions in all of us. By maintaining open communications, developing business continuity and crisis contingency plans for employees as well as business operations, employers can reaffirm their concern for their "work family" and mobilize the strength of their organization, to support and to assist all of their employees after major traumatic events. ■



The New York Police Department Emergency Operations Center at Ground Zero.

Osha Encourages Defibrillator Use to Revive Workers with Cardiac Arrest

Because the use of Automated External Defibrillators (AEDs) can save the lives of workers who experience cardiac arrest while on the job, on Dec. 17, 2001, OSHA issued a press release encouraging employers to consider making this equipment available in their workplaces.

AEDs are easy to use and can make the critical difference in reviving individuals who suffer a cardiac crisis. Administered within three minutes, the electric shock (defibrillation) restores the normal rhythm to the victim's heart and can increase survival rates from less than five percent to nearly 75 percent. Immediate defibrillation can revive more than 90 percent of victims.

OSHA has issued a fact card and a technical information bulletin on the use of AEDs, encouraging employers to take advantage of this technology. AEDs are lightweight and run on rechargeable batteries. They are designed to analyze the heart rhythm and automatically indicate when to administer the shock. Each unit costs from $3,000 to $4,500.

Each year 300,000 to 400,000 individuals die from cardiac arrest. Most of these deaths occur outside of hospitals. Cardiac arrest is often due to chaotic beating of the heart, which can be restored to normal rhythm if treated promptly with defibrillation. With each minute of delay in defibrillation, 10 percent fewer victims survive.

Placing AEDs in workplaces could significantly increase survival rates. In 1999 and 2000, 815 of 6,339 workplace fatalities reported to OSHA resulted from cardiac arrest. The agency estimates if AEDs helped restore 40 percent of those who suffer a cardiac crisis, as many as 120 lives would be saved each year. Workers involved in shift work, holding high stress jobs, or exposed to certain chemicals or electrical hazards face a higher risk of heart disease and cardiac arrest.

AEDs have proven their value at the U.S. Department of Labor headquarters where they are strategically placed throughout the building. On Dec. 14th, a Labor Department employee collapsed. Co-workers called the DOL Health Unit, and a nurse came and used a nearby AED to treat the victim. The individual was resuscitated, sent to the hospital and is now recuperating following heart surgery.

The new OSHA fact card and technical information bulletin are available on OSHA's website at www.osha.gov, and through the agency's publications office at 800.321.OSHA.

(Note: The purpose of these materials is for information only and does not impose and is not intended to result in the imposition of any new legal obligations or constraints on employers.) ■

Bloodborne Infectious Diseases Seminars

The Consultation Education and Training (CET) Division and Michigan Department of Community Health (MDCH) are working together to present full-day Bloodborne Infectious Diseases Seminars throughout the state.

These seminars are designed to assist employers in complying with MIOSHA's amended Bloodborne Infectious Diseases Standard. MDCH will provide information related to Hepatitis A-E transmission and Centers for Disease Control and Prevention (CDC) recommendations for Hepatitis B vaccinations.

Participants will be informed of the changes to the regulations and presented with tools to assist in the evaluation, control and prevention of bloodborne infectious diseases in the workplace. The afternoon session will be divided into separate tracks for general industry first-aid providers and healthcare.

In the general industry track, exceptions and special considerations related to bloodborne exposures will be discussed. In the healthcare track, additional information will be shared related to the needlestick and sharps injury provisions within the standard and new CDC recommendations for HBV, HCV and HIV postexposure prophylaxis.

Locations & Dates

Escanaba
January 30

Livonia
February 19

Grand Rapids
March 21

Cadillac
April 30

Each seminar runs from 8:30 a.m. to 4:00 p.m. For further information or to register, contact the CET Division at 517.322.1809.

How To Contact Us

MIOSHA Complaint Hotline	800.866.4674
Fatality/Catastrophe Hotline	800.858.0397
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Free Safety/Health Consultation	517.322.1809

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Standards	517.322.1845	Connie Munschy
Wage & Hour	517.322.1825	Bill Strong

Website: www.cis.state.mi.us/bsr

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MI SHA news

Consumer & Industry Services
Bureau of Safety & Regulation
Director: Douglas R. Earle

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